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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,036	03/16/2001	Mark Allmen	37112-167615	5594
26694	7590	06/04/2004	EXAMINER	
VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP			SENF, BEHROOZ M	
P.O. BOX 34385			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20043-9998			2613	7

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/809,036

Applicant(s)

ALLMEN ET AL.

Examiner

Behrooz Senfi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3 – 7 and 16 – 18, are rejected under 35 U.S.C. 102(e) as being anticipated by Eleftheriadis et al (US 6,055,330).

Regarding claims 1 and 18, Eleftheriadis '330 discloses the claimed "method for Encoding a video sequence, comprising a background and foreground" (i.e. fig. 15, 1600, wherein MPEG-4 background and foreground are being detected and being separately encoded), and "encoding the video sequence based on balancing bits per pixel for the background with bits per pixel for the foreground" (i.e. fig. 4, cols. 8 – 9, lines 62 – 15).

Regarding claim 3, the claimed "bits per pixel for the foreground region is based on a number of bits in compressed foreground region, a number of bits for shape of the foreground regions and a number of pixels in the foreground region" reads on (col. Figs. 4 - 5, col. 8, lines 40+).

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Regarding claims 4 – 6, the claimed limitations “balancing factor for background and foreground, and correction factor, and quality factor” reads on rate controller for controlling variable step quantization and generating appropriate quantization selection.

Regarding claim 7, Eleftheriadis '330 discloses the claimed “bit budget” (i.e. col. 3, lines 34 – 35, bit-allocation).

Regarding claims 16 – 17, Eleftheriadis '330 video segmentation and compression process are computer implemented and the software for executing the process would have been necessitated by the system.

3. Claims 1, 8 – 11, 18 – 21 and 25 - 27, are rejected under 35 U.S.C. 102(e) as being anticipated by Okada (US 5,729,295).

Regarding claims 1 and 18, Okada '295 discloses the claimed “encoding a video sequence, comprising a background and foreground” (i.e. fig. 4), and “encoding the video sequence based on balancing bits per pixel for the background with bits per pixel for the foreground” (i.e. fig. 2, 24 and 35).

Regarding claims 8 and 11, Okada '295 discloses the claimed “determining a background and foreground quantization step” (i.e. col. 2, 16 – 27, and col. 5, lines 33 – 44).

Regarding claims 9, 10 and 20 - 21, Okada '295 discloses the claimed “determining the quantization step based on estimated number of bits” (fig. 10, units 24, 35 and 48) where the activity estimation controls the quantization and encoding process.

Regarding claims 19 and 27, the limitations claimed are substantially similar to claims 1 and 11, therefore the grounds for rejecting claims 1 and 11 also applies here.

Regarding claims 25 - 26, Okada '295 image sequence encoding/compression device are computer implemented and the software to carry out the processing instruction and commands would have been necessitated by the system.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12 – 15, 22 – 24 and 28 - 29, are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada '295 in view of Ryoo (US 5,990,957).

Regarding claim 15, Okada '295 teaches the claimed "encoding a video sequence, comprising encoding background and foreground, and determining the quantization step size for background and foreground" (i.e. figs.2 and 4, and col. 2, 16 – 27, and col. 5, lines 33 – 44). Okada '295 fails to explicitly teach the claimed "frame dropping". However, such features are well known and used as evidenced by Ryoo '957 (i.e. col. 7, lines 20 – 34) where teaches estimation of the bit rates by determining the block variance and skipping. Therefore, taking the combined teaching of Okada '295 and Ryoo '957 as a whole, it would have been obvious to one ordinary skilled in the art at the time of the invention was made to modify and improve the coding/compression device of Okada as taught by Ryoo to maximize the signal compression effect while

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minimizing deterioration in picture quality by determining the quantization step size depending on significance of several video objects constituting a frame in consideration of human visual characteristics and allocating appropriate bit amount to each video object (col. 2, lines 6 – 11 of Ryoo).

Regarding claims 12 – 14, 22 – 23 and 28 - 29, combination of Okada '295 and Ryoo '957 as a whole teaches, the claimed "frame dropping and sub-sampling and bit budget" (i.e. col. 11, lines 45+ and col. 7, lines 20+ of Ryoo).

Regarding claim 24, the limitations claimed are substantially similar to claim 15, therefore, the grounds for rejecting claim 15 also applies here.

6. Claim 2, is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada '295 in view of Lee et al (US 5,778,098).

Regarding claim 2, Okada '295 teaches the claimed "encoding a video sequence, comprising encoding background and foreground, and determining the quantization step size for background and foreground" (i.e. figs.2 and 4, and col. 2, 16 – 27, and col. 5, lines 33 – 44). Okada '295 fails to explicitly teach the claimed "warp point defined as sprite is to be warped to create the background". However, such features are well known and used as evidenced by Lee '098 (i.e. col. 4, lines 14+). Therefore, taking the combined teaching of Okada '295 and Lee '098 as a whole, it would have been obvious to one ordinary skilled in the art at the time of the invention was made to improve the compression process of the video to increase accuracy as taught by Lee.

Conclusion

7. Any inquiry concerning this communication or earlier communications

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from the examiner should be directed to **Behrooz Senfi** whose telephone number is **(703)305-0132**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Chris Kelley** can be reached on **(703)305-4856**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

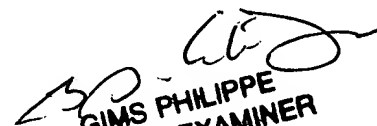
(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relative to the status of the application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

B. S. B. S.

5/26/2004


GIMS PHILIPPE
PRIMARY EXAMINER